

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

1. (Original) A method of starting a turbine engine having a compressor rotationally coupled to a turbine for compressing air, a recuperator for transferring heat from turbine exhaust to the compressed air, and a catalytic combustor to react fuel with the heated compressed air, the method comprising:

rotating the compressor to pass compressed air through the recuperator and the combustor and into the turbine; and

heating the turbine exhaust flow.

2. (Original) The method of claim 1, wherein the turbine engine comprises a heater fluidly disposed downstream of the turbine to heat the turbine exhaust.

3. (Original) The method of claim 1, wherein heating the turbine exhaust flow comprises:

discontinuing to heat the turbine exhaust flow when the combustor catalyst has reached its light-off temperature.

4. (Original) The method of claim 3, comprising:

monitoring the turbine exhaust temperature to determine when the combustor catalyst has reached its light-off temperature.

5. (Original) The method of claim 3, wherein heating the turbine exhaust flow comprises:

discontinuing to heat the turbine exhaust flow when the turbine exhaust temperature has reached a predetermined value.

6. (Original) The method of claim 1, wherein heating the turbine exhaust flow comprises:

heating the turbine exhaust flow prior to the exhaust flow entering the recuperator.

7. (Original) The method of claim 6, wherein the turbine engine comprises a heater fluidly disposed between the turbine outlet and the recuperator to heat the turbine exhaust.

8. (Original) The method of claim 1, wherein heating the turbine exhaust flow comprises:

heating the recuperator.

9. (Original) The method of claim 8, wherein the turbine engine comprises a heater coupled to the recuperator to heat the recuperator.

10. (Original) The method of claim 9, wherein the heater is an electric band heater.

11. (Original) The method of claim 8, wherein heating the recuperator comprises:

discontinuing to heat the turbine exhaust flow when the combustor catalyst has reached its light-off temperature.

12. (Original) The method of claim 11, comprising:

monitoring the turbine exhaust temperature to determine when the combustor catalyst has reached its light-off temperature.

13. (Original) The method of claim 11, comprising:

discontinuing to heat the turbine exhaust flow when the turbine exhaust temperature has reached a predetermined value.

14. (Original) The method of claim 1, further comprising:

passing the turbine exhaust exiting from the recuperator through the compressor to be compressed together with air.

15. (Original) The method of claim 14, wherein passing the turbine exhaust exiting from the recuperator through the compressor comprises:

discontinuing to pass the turbine exhaust exiting from the recuperator through the compressor when the combustor catalyst reaches its light-off temperature.

16. (Original) The method of claim 15, comprising:
monitoring the turbine exhaust temperature to determine when the combustor catalyst has reached its light-off temperature.
17. (Original) The method of claim 15, wherein passing the turbine exhaust exiting from the recuperator through the compressor comprises:
discontinuing to pass the turbine exhaust exiting from the recuperator through the compressor when the turbine exhaust temperature has reached a predetermined value.
18. (Original) The method of claim 15, wherein heating the turbine exhaust flow comprises:
discontinuing to heat the turbine exhaust flow when the combustor catalyst has reached its light-off temperature.
19. (Original) The method of claim 1, wherein heating the turbine exhaust flow comprises:
heating the turbine exhaust flow to transfer heat through the recuperator to the compressed air prior to the compressed air entering the combustor.

20. (Original) The method of claim 19, wherein heating the turbine exhaust flow comprises:

heating the turbine exhaust flow to transfer heat through the recuperator to the compressed air prior to the compressed air entering the combustor for the heated compressed air to heat the catalyst in the combustor.

21-72. (cancelled)